

**PROPOSED USE OF THE PLENARY POWERS TO SUPPRESS THE
GENERIC NAME "ASAPHUS" AS PUBLISHED BY BRONGNIART
IN DESMAREST, 1817, AND TO DESIGNATE A TYPE SPECIES
IN HARMONY WITH GENERAL USAGE FOR THE GENUS
"ASAPHUS" BRONGNIART, 1822 (CLASS TRILOBITA)**

By **VALDAR JAANUSSON**

(*Paleontologiska Institutionen, Uppsala Universitet, Sweden*)

Plate 1

(Commission Reference : Z.N.(S.) 636)

The object of the present application is to ask the International Commission on Zoological Nomenclature to use its Plenary Powers to suppress the generic name *Asaphus* as published by Brongniart in Desmarest, 1817, and to designate as the type species of *Asaphus* Brongniart, 1822, the species generally accepted as such, thereby avoiding the serious confusion which would inevitably result from the application of the normal provisions of the *Règles* in this case. It is hoped that it will be possible for the International Commission to give an early decision on the present application, since a decision is urgently required in connection with the preparation of the relevant portion of the forthcoming *Treatise on Invertebrate Paleontology*. The details relating to this case are set out in the following paragraphs.

2. The generic name *Asaphus* was published by Brongniart in Desmarest, 1817 (:517). The only nominal species included by him in the genus were *A. Debuchianus* n. sp. and *A. Haussmannii* n. sp. According to the current classification the former species is placed in the asaphid genus *Ogygiocaris* Angelin, 1854, while the latter species is regarded as the type species of *Odontochile* Hawle & Corda, 1847, and belongs to a group of trilobites generally considered unrelated to the asaphids (*Phacopidacea*).

3. The genus *Asaphus* was redescribed by Brongniart in Brongniart & Desmarest, 1822 (:17—25). In addition to the two species mentioned in paragraph 2 above, the nominal species *Trilobites cornigerus* Schlotheim, 1820, *Trilobus caudatus* Brünnich, 1781, and *Entomostracites laticauda* Wahlenberg, 1821, were on this occasion included in the genus.

4. Subsequent writers generally have considered the generic name *Asaphus* to have been established by Brongniart in 1822, and, in fact, I do not know in the literature after Brongniart, 1822, any reference to the genus *Asaphus* as established in Desmarest, 1817.

5. Although S. A. Miller 1889 (: 531) selected *A. cornigerus* (Schlotheim, 1820) as the type, the type species for the genus *Asaphus* Brongniart, 1822, generally accepted in the literature is *Asaphus expansus* (Wahlenberg) (Vogdes, 1890 : 84 ; Reed, 1930 : 289 ; Jaanusson, 1953 : 391 ; Balaschova, 1953 : 386).

6. Neither of the species originally included by Brongniart in *Asaphus* in 1817 belong to this genus in its universally accepted sense. The selection of one of them as the type species of *Asaphus* would, therefore, create serious confusion both in trilobite taxonomy and in Lower Ordovician stratigraphy. As the 1817 publication of this generic name has completely escaped the attention of trilobite workers up till now, the suppression of the generic name *Asaphus* as published by Brongniart in Desmarest in that year would best serve the interests of stability in nomenclature.

7. Of the species included by Brongniart in Brongniart & Desmarest, 1822, in the genus *Asaphus* only *Trilobites cornigerus* Schlotheim, 1820, belongs to the genus in its accustomed sense, the other species having been transferred to other genera long ago, and, with the exception of *Asaphus Debuchianus*, even to other families. As regards *Asaphus cornigerus* (Schlotheim), Brongniart (1822 : 18) stated : "Cette espèce semble s'éloigner beaucoup des suivantes et former une division particulière. Elle constituerait à elle seule le genre *Asaphe*, si des observations ultérieures prouvaient que les autres espèces doivent être réunies soit aux Calymènes, soit aux Ogygies". This can be interpreted as a kind of designation of the type species. The specific name *Trilobites cornigerus* was published by Schlotheim in 1820 (: 38) but already in 1810 (: 1, Pl. 1, figs. 1—3) the species had been described and figured by him without a specific name (*Trilobites novus*). Fr. Schmidt (1898 : 2—3 ; 1901 : 2—3) had an opportunity of examining the original specimen figured by Schlotheim in 1810 as figure 1 on Plate 1 in connection with his monographic treatment of the genus *Asaphus*. At first (1898 : 2—3) he was inclined to regard this specimen as conspecific with *Asaphus kowalewskii* Lawrow, 1856, but after a renewed examination of this specimen he considered it to be too fragmentary for specific determination (1901 : 2—3). He stated (*loc. cit.*) that "der *A. cornigerus* Schloth. ist von vorn herein auf zu mangelhaftes Material fundiert und so mangelhaft beschrieben worden, dass ich seine Rehabilitierung für nicht zuverlässig halten kann". The other specimens figured by Schlotheim, 1810 on Pl. 1, namely those shown as figs. 2 and 3, were apparently not traceable even at the time when Fr. Schmidt had access to his original material. According to Fr. Schmidt (1898 : 3) these figures obviously represent specimens not conspecific with that shown on Schlotheim's Pl. 1, fig. 1 ["stellen augenscheinlich andere Asaphiden vor"]. On the basis of Schlotheim's figures alone these specimens are, however, specifically indeterminable. According to information received from Professor W. Gross, Humbolt-Universität, Berlin (*in litt.* March 22nd, 1952) all the original material of Schlotheim was lost during the recent war. *Trilobites cornigerus* Schlotheim, 1820, was

considered as a *nomen dubium* by Jaanusson (1953 : 393) and as such the nominal species so named is wholly unsuitable for selection as a type species. From the point of view of promoting stability of nomenclature within the genus *Asaphus* in its accustomed use it would be best to suppress the specific name *cornigerus* Schlotheim, 1820, as published in the combination *Trilobites cornigerus*.

8. *Entomostracites expansus* Wahlenberg was considered by Brongniart (1822 : 18, footnote 1, cf. also : 19) as a junior subjective synonym of *Asaphus cornigerus* (Schlotheim, 1820). He evidently attributed the specific name *expansus* to Wahlenberg, 1821, and used for this species the older name of Schlotheim (1820). Wahlenberg, 1821, on the other hand, regarded Linnaeus (1768) as the founder of the specific name *expansus* and listed (: 25) *Trilobites novus* of Schlotheim, 1810 [= *cornigerus* Schlotheim, 1820] as a synonym of *Entomostracites expansus* (Linnaeus, 1768). Wahlenberg's main paper on the trilobites was already printed in 1818, as is evident *inter alia* from the introduction to his "Additamenta" (Wahlenberg 1821 : 293) and preprints of this paper were evidently also distributed separately in this year. Under the *Règles* preprints issued in this way have no status for nomenclatorial purposes (1950, *Bull. zool. Nomencl.* 4 : 146, Point 19(b)). Volume 8 of the *Nova acta Regiae Soc. Sci. Upsaliensis* which includes both the main trilobite paper of Wahlenberg and also his "Additamenta" was published and distributed first in 1821. According to the *Règles* both papers date from 1821. The main trilobite paper of Wahlenberg is usually referred to in the literature as "Wahlenberg 1818 (1821)" or "(1818) 1821", and his "Additamenta" as "Wahlenberg 1821". Owing to the fact that the main trilobite paper of Wahlenberg, 1821, was printed prior to the paper of Schlotheim (1820) no mention is made in it of the specific name *Trilobites cornigerus* Schlotheim, 1820.

9. The specific name *expansus* was used for this trilobite first by Linnaeus (1768 : 160) as *Entomolithus paradoxus* α *expansus*. In the International Commission's *Opinion* 296 (1954), however, the *Regnum Lapidum* of the Twelfth Edition of the *Systema Naturae* by Linnaeus (1768) has been suppressed for nomenclatorial purposes. The specific name *expansus* is, therefore, available first from the next description which was given to it, namely that by Wahlenberg, 1821, under the name *Entomostracites expansus*. Wahlenberg did not illustrate this species but his collection preserved at the Museum of the Palaeontological Institute, Uppsala University, includes many specimens of the species generally recognised as *Asaphus expansus*, and several of these specimens are also accompanied by labels bearing the name "*Entomostracites expansus*" in Wahlenberg's own handwriting. Naturally, the concept of the species was broader in Wahlenberg's time than it is today, and several other *Asaphus* species were included by him in *Entomostracites expansus*. The specimens of the species later generally determined as *Asaphus expansus* are, however, more numerous in Wahlenberg's collection than are the specimens of other species also included by him in his *Entomostracites expansus*.

In order to preserve the specific name *Asaphus expansus* for use in harmony with accustomed practice, one of the former specimens should be selected as the lectotype of the nominal species *Entomostracites expansus* Wahlenberg, 1821. The specimen bearing the Number Ög. 23 is accordingly here selected as the lectotype. On the label accompanying this specimen is written in an unknown hand "Canalen vid Heda, Ljung eller Wreta Kloster", and in Wahlenberg's handwriting "Entom. expansus". The specimen is figured on the plate annexed to the present application. The following labels are attached to the specimen: Heda [= name of the locality] and "Pal. Inst. Uppsala. Wahlenbergs samling. Nr. Ög. 23".

10. It must be noted at this point that in 1953 (: 391) Balaschova selected a lectotype for *Asaphus expansus*, which, following Fr. Schmidt (1898 : 19) she attributed to Dalman. The specimen chosen by Balaschova was from Isvos, Volchov, Ingermanland (Leningrad district) which had been figured by Fr. Schmidt in 1901 (pl. 1, fig. 2). Further, as a precautionary measure Balaschova at the same time designated a neotype, also from the Leningrad district. It is necessary to take note here that, although Balaschova attributed the name *expansus* to Dalman, Dalman himself correctly attributed this name to Wahlenberg. Under the rules laid down by the Copenhagen Congress of 1953 no neotype can be validly selected for any nominal species for which any part of the original type material is extant. As has been shown in paragraph 9 above, numerous specimens of Wahlenberg's are still preserved and accordingly no neotype for *expansus* Wahlenberg can validly be selected by any author. Similarly, no lectotype for a nominal species can be validly selected except from among the surviving syntypes of the species concerned, and, as the lectotype selected by Balaschova was not one of Wahlenberg's specimens, her lectotype selection is invalid.

11. As pointed out in paragraph 5 above, the species accepted as the type species of *Asaphus* Brongniart, 1822, by all modern authors is *Entomostracites expansus* Wahlenberg and any disturbance of this practice would lead to serious and quite unjustified confusion. It is accordingly proposed that the Commission should under its Plenary Powers set aside all type selections hitherto made for the genus *Asaphus* Brongniart, 1822, and that, having done so, it should designate the foregoing species to be the type species of this genus.

12. The generic name *Asaphus* Brongniart, 1822, was taken as the base for a family name ASAPHIDAE by Burmeister in 1843 (: 118). This name should now be placed on the *Official List of Family-Group Names in Zoology*.

13. In the light of the considerations advanced in the present application, the International Commission on Zoological Nomenclature is asked :—

(1) to use its Plenary Powers :

(a) to suppress the under-mentioned generic name for the purposes both of the Law of Priority and of the Law of Homonymy :
Asaphus Brongniart, 1817 ;

(b) to suppress the under-mentioned specific name for the purposes of the Law of Priority but not for those of the Law of Homonymy :
cornigerus Schlotheim, 1820, as published in the combination
Trilobites cornigerus ;

(c) to set aside all type selections for the genus *Asaphus* Brongniart, 1822, made prior to the Ruling now asked for and, having done so, to designate *Entomostracites expansus* Wahlenberg, 1821, as defined by the lectotype selected in paragraph 9 of the present application, to be the type species of the foregoing genus ;

(2) to place the under-mentioned generic name on the *Official List of Generic Names in Zoology* : *Asaphus* Brongniart, 1822, as validated under the Plenary Powers under (1)(a) above (gender : masculine) (type species, by designation under the Plenary Powers under (1)(c) above : *Entomostracites expansus* Wahlenberg, 1821, as defined in (1)(c) above) ;

(3) to place the under-mentioned specific name on the *Official List of Specific Names in Zoology* : *expansus* Wahlenberg, 1821, as published in the combination *Entomostracites expansus* and as defined by the lectotype specified in (1)(c) above (specific name of type species of *Asaphus* Brongniart, 1822) ;

(4) to place the under-mentioned generic name on the *Official Index of Rejected and Invalid Generic Names in Zoology* : *Asaphus* Brongniart, 1817, as suppressed under the Plenary Powers under (1)(a) above ;

(5) to place the under-mentioned specific names on the *Official Index of Rejected and Invalid Specific Names in Zoology* :—

(a) *expansus* Linnaeus, 1768, as published in the combination
Entomolithus paradoxus [var.] α *expansus* (published in a work rejected for nomenclatorial purposes) ;

(b) *cornigerus* Schlotheim, 1820, as published in the combination
Trilobites cornigerus, as suppressed under the Plenary Powers under (1)(b) above ;

(6) to place the under-mentioned family-group name on the *Official List of Family-Group Names in Zoology* : ASAPHIDAE Burmeister, 1843 (type genus : *Asaphus* Brongniart, 1822).

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Explanation to Plate 1

Illustrations of the Lectotype of *Entomostracites expansus* Wahlenberg, 1821 (*Asaphus expansus* (Wahlenberg, 1821)), here selected. Palaeontological Institute, Uppsala University, No. Ög. 23.

All the figures are twice the natural size. The specimen is whitened with ammonium chloride. The photographs are by Mr. N. Hjorth, Palaeontological Institute, Uppsala University. They have not been retouched.

Fig. 1. Dorsal view of the cephalon and the foremost thoracic segments

Fig. 2. Lateral view of the dorsal exoskeleton

Fig. 3. Ventral view of the cephalon to show the cephalic doublure

Fig. 4. Anterior view of the cephalon

Fig. 5. Dorsal view of the pygidium

